

IN THE CLAIMS:

Claim 1 (Currently Amended): A color image processing method for converting first color signals containing four or more variables including black to second color signals containing four variables including black, said method comprising the steps of:

obtaining device-independent color signals on color system color coordinates from said first color signals,

determining a black color signal in said second color signals having the identical or virtually identical density as the black color signal in said first color signals, [[and]]

determining the remaining three variable color signals in said second color signals from the black color signal and the device-independent color signals in said second color signals so that colorimetric consistency of the three variable color signals may be obtained,

wherein

when the color signals other than black in said first color signals are set to zero, the color signals other than black in said second color signals are set to zero.

Claim 2 (Cancelled):

Claim 3 (Original): The color image processing method according to claim 1,
wherein

the color signals other than black in said first color signals and in said second color signals are yellow, magenta, and cyan.

Claim 4 (Original): The color image processing method according to claim 1,
wherein
the device-independent color signals on said color system color coordinates are L^*a^*b
color signals.

Claim 5 (Original): The color image processing method according to claim 1,
wherein
the step for determining a black color signal in said second color signals having the
identical or virtually identical density as the black color signal in said first color signals is
configured by a lookup table.

Claim 6 (Original): The color image processing method according to claim 1,
wherein
a function showing the relationship between said second color signals and the device-
independent color signals on color system color coordinates is obtained in advance via a step for
determining the remaining three variable color signals in said second color signals from the black
color signal and the device-dependent color signals in said second signals so that colorimetric
consistency of the three variable color signals may be obtained, and
said function is solved by using as an input the black color signal and the device-
dependent color signals in said second signals, in order to determine the remaining three variable
color signals in said second color signals.

Claim 7 (Currently Amended): A color image processor for converting first color signals containing four or more variables including black to second color signals containing four variables including black, said processor comprising:

means for obtaining device-independent color signals on color system color coordinates from said first color signals,

means for determining a black color signal in said second color signals having the identical or virtually identical density as the black color signal in said first color signals, and

means for determining the remaining three variable color signals in said second color signals from the black color signal and the device-independent color signals in said second color signals so that colorimetric consistency of the three variable color signals may be obtained,

wherein the color signals other than black in said second color signals are set to zero, when the color signals other than black in said first color signals are zero.

Claim 8 (Original): The color image processor according to claim 7, wherein said color image processor comprises means for setting the color signals other than black in said second color signals to zero, in case the color signals other than black in said first color signals are zero.

Claim 9 (Original): The color image processor according to claim 7, wherein the color signals other than black in said first color signals and in said second color signals are yellow, magenta, and cyan.

Claim 10 (Original): The color image processor according to claim 7, wherein the device-independent color signals on said color system color coordinates are L^*a^*b color signals.

Claim 11 (Original): The color image processor according to claim 7, wherein the step for determining a black color signal in said second color signals having the identical or virtually identical density as the black color signal in said first color signals is configured by a lookup table.

Claim 12 (Original): The color image processor according to claim 7, wherein a function showing the relationship between said second color signals and the device-independent color signals on color system color coordinates is obtained in advance via means for determining the remaining three variable color signals in said second color signals from the black color signal and the device-dependent color signals in said second signals so that colorimetric consistency of the three variable color signals may be obtained, and

said function is solved by using as an input the black color signal and the device-dependent color signals in said second signals, in order to determine the remaining three variable color signals in said second color signals.

Claim 13 (Original): The color image processor, wherein each means of said color image processor according to claim 7 is configured by a 4-or-more-input 4-output color converter that inputs color signals containing four or more variables in said first color signals and outputs four variable color signals in said second color signals.

Claim 14 (Original): The color image processor according to claim 13, wherein
said 4-or-more-input 4-output color converter is configured by a direct lookup table.

Claim 15 (Original): The color image processor comprising:
each means of the color image processor according to claim 7 is configured by
a 4-or-more-input 3-output color converter that inputs color signals containing four or
more variables in said first color signals and outputs three variable color signals other than black
out of the four variable color signals in said second color signals, and
a 1-input 1-output color converter that inputs the black color signal in said first color
signals and outputs the black color signal in said second color signals.

Claim 16 (Original): The color image processor according to claim 15, wherein
said 4-or-more-input 3-output color converter is configured by a direct lookup table, and
said 1-input 1-output color converter is configured by a lookup table.

Claim 17 (New): The color image processing method according to claim 1,
wherein the color signals other than black in said second color signals are not set to zero
under a predetermined condition.